Claims

What is claimed is:

1.   A switch within an asynchronous communication network
comprising, one or more outputs and a buffer unit
communicating with the switch, wherein the buffer unit is
adapted to buffer the data until a predefined number of
wavelengths leading to a buffered destination is vacant.

2.   The switch of claim 1 wherein the switch is adapted to
monitor vacant wavelengths at the switch outputs.

3.   The switch of claim 1, wherein the data and buffered
packets are classified according to one of (a) packet data
length and (b) length of non-packet data.

4.   The switch of claim 3, wherein
at least one packet of packet data with a length within a
first range is associated with a first queue, packets of
data with a length within a second range is associated with
a second queue, and packets of data with a length within a
third range is associated with a third queue, further
packets of data of other lengths associated with an
arbitrary number of ranges and each range associated with a
specific queue among the first, second and third queues.

5.   The switch of claim 1 wherein data, at the buffer unit
inputs, originates from lines external to the switch.

6.   The switch of claim 5, where the external lines are
low bit rate lines from aggregation inputs, namely metro
access rings.

7.   The switch of claim 1, wherein the data, at the buffer
unit input is routed from a one or more switch inputs.

O:OSL-038

8. The switch of claim 1, where the switch is selected to operate within one of the following networks among the group consisting of an optical packet switched network, an optical bursts switched network, an electronic packet switched network, a WDM network, and an electronic bursts switched network.

9. The switch of claim 5, where the switch is an optical switching unit.

10. The switch according to claim 5, where the switch is an electronic switching unit.

11. The switch of claim 7, where at least one of the output or input signals of the switch are WDM.

12. The switch of claim 9, where the buffer is an electronic type of buffer.

13. A method for organizing dataflows in an asynchronous communication network including at least one switch, where said switch is associated with at least one buffer and at least a dataflow that can be divided into data packets, comprising: communicating buffered data to the switch, and buffering the data in the buffer unit until a predefined number of wavelengths leading to a buffered packets destination is vacant.

14. The method of claim 13 further defined by monitoring vacant wavelengths at the switch.

15. The method of claim 13 further defined by buffering data packets into a number of queues according to parameters of the data packets.

16. The method of claim 13, wherein the method further comprises associating data packets with a length within a first range with a first queue.

O:OSL-038

17. The method of claim 13, wherein the method further comprises associating data packets with a length within a second range with a second queue.

18. The method of claim 13, wherein the method further comprises associating data packets with a length within a third range with a third queue.

19. The method of claim 13, wherein the method further comprises associating data packets of other lengths with an arbitrary number of ranges where each range can be associated with a specific queue.